

What is claimed:

1. A supercharging assembly for increasing an amount of air received through an inlet port of an internal combustion engine of a motor vehicle having a hood extending thereover, said supercharging assembly comprising:

a lower intake manifold fixedly secured to the internal combustion engine;

a blower operatively connected to said lower intake manifold for forcing air into said lower intake manifold with increased pressure to create charged air;

an inlet duct operatively connected between the inlet port and said blower for directing the air into said blower; and

an output plate fixedly secured to said lower intake manifold for mounting said blower to said lower intake manifold, said output plate including a recess extending down into said lower intake manifold such that said blower is mounted to said recess to provide clearance for the hood to move to a closed position over the internal combustion engine.

2. A supercharging assembly as set forth in claim 1 including a cooling system for cooling said charged air stored in said lower intake manifold.

3. A supercharging assembly as set forth in claim 2 wherein said cooling system includes an inner heat exchanger disposed within said lower intake manifold below said output plate to collect thermal energy stored in said charged air.

4. A supercharging assembly as set forth in claim 3 wherein said blower includes a shaft housing extending outwardly therefrom to a shaft distal end.

5. A supercharging assembly as set forth in claim 4 including a blower pulley fixedly secured to said shaft distal end.

6. A supercharging assembly as set forth in claim 5 including a blower belt extending between said blower pulley and the internal combustion engine to allow the internal combustion engine to drive said blower.

7. A supercharging assembly as set forth in claim 6 including a variable tensioning mechanism to adjust tension in said blower belt.

8. A supercharging assembly as set forth in claim 7 including a spacer defining an air flow path between said inlet duct and the inlet port.

9. A supercharging assembly as set forth in claim 8 wherein said cooling system includes an exterior heat exchanger to remove thermal energy from said cooling system collected by said inner heat exchanger.

10. A supercharging assembly as set forth in claim 9 wherein said output plate defines a frame that is fixedly secured to said lower intake manifold.

11. A supercharging assembly as set forth in claim 10 wherein said recess including a blower plate extending below said frame.

12. A supercharging assembly as set forth in claim 11 wherein said recess includes a connecting wall extending between said frame and said blower plate to space said blower plate in relation to said frame.

13. A supercharging assembly as set forth in claim 12 wherein said connecting wall is perpendicular to said blower plate and said frame.

14. A supercharging assembly for increasing an amount of air received through an inlet port of an internal combustion engine of a motor vehicle having a hood extending thereover, said supercharging assembly comprising:

a lower intake manifold fixedly secured to the internal combustion engine;

a blower operatively connected to said lower intake manifold for forcing air into said lower intake manifold with increased pressure to create charged air;

an inlet duct operatively connected between the inlet port and said blower for directing the air into said blower; and

an output plate fixedly secured to said lower intake manifold for mounting said blower to said lower intake manifold, said output plate including a frame surrounding a recess defining a blower plate extending down into said lower intake manifold such that said blower is mounted to said blower plate to provide clearance for the hood to move to a closed position over the internal combustion engine.

15. A supercharging assembly as set forth in claim 14 wherein said recess includes a connecting wall extending between said frame and said blower plate to space said blower plate in relation to said frame.

16. A supercharging assembly as set forth in claim 15 wherein said connecting wall is perpendicular to said blower plate and said frame.

17. A supercharging assembly as set forth in claim 16 including a cooling system for cooling said charged air stored in said lower intake manifold.

18. A supercharging assembly as set forth in claim 17 wherein said cooling system includes an inner heat exchanger disposed within said lower intake manifold below said output plate to collect thermal energy stored in said charged air.

19. A supercharging assembly as set forth in claim 18 wherein said blower includes a shaft housing extending outwardly therefrom to a shaft distal end.

20. A supercharging assembly as set forth in claim 19 including a blower pulley fixedly secured to said shaft distal end.